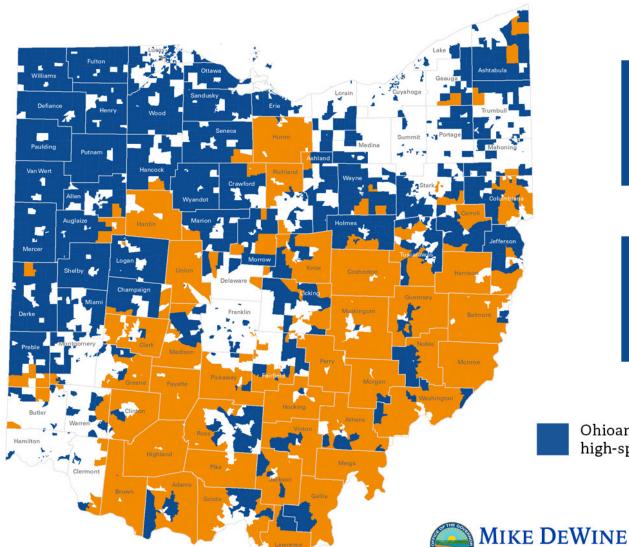
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Ohio Residential Broadband Expansion Impact

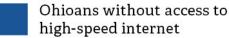


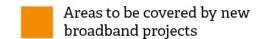
Nearly 100,000 Households

62 Counties

104 Total Projects

\$232 Million in Grant Awards











Announcements and Updates

- +Project 10 million / T-Mobile
- +BEAD Consultant RFP
- +Telehealth Administrator RFP
- +Federal Funds Update
- +Affordable Connectivity Program



Agenda

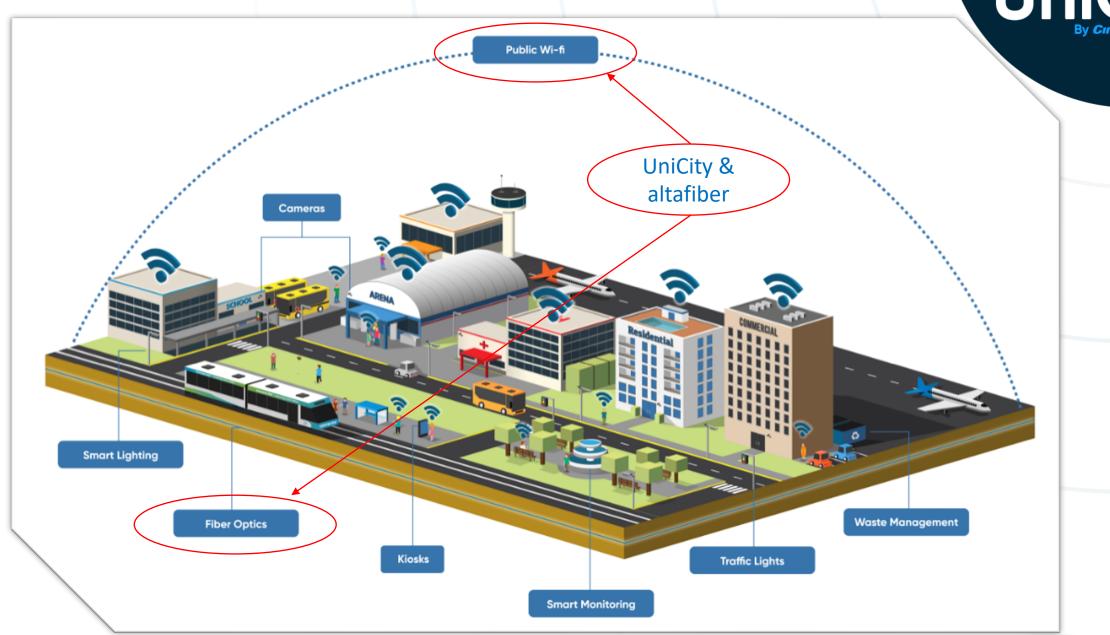
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What is a Smart City?





Our Experience



2020

- City of Wyoming
- Oregon District
- Housing Authority of Covington
- City of Covington
- City of Middletown
- City of Lockland

- Greater Dayton Premier Management
- Newport on the Levee
- Dayton Dragons

2021

- 5 Points Ally Walnut Hills
- Dayton Arcade
- Dayton KY Housing Authority
- City of Loveland
- City of Montgomery
- CMHA (15+ Locations)
- Dayton Dragons (Phase #2)

- Colerain Township
- Springfield Township
- Village of Lockland
- City of Mt Healthy
- City of Deer Park
- City of Cheviot
- CVG Airport Phase #2

2015

- Findlay Market
- Fountain Square
- Aronoff
- The Banks
- Washington Park
- Coney Island
- US Bank Arena

2016

- Newport Aquarium
- Reds Fioptics
 District
- Reds Technology Pavilion
- Riverbend Music Center

2017

- Summit Park
- City of Newport
- BB&T Arena
- Sharonville
 Convention Center

2018

- City of Covington
- City of Fairborn
- University of Dayton Arena
- Wright State University

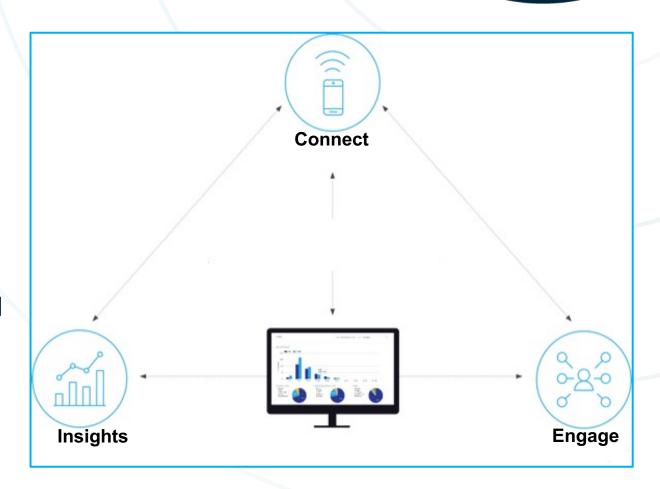
2019

- CVG Airport
- University of Dayton Arena Phase #2
- Levitt Pavilion

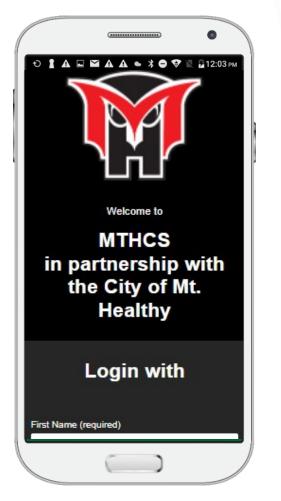
Intelligent Wi-Fi

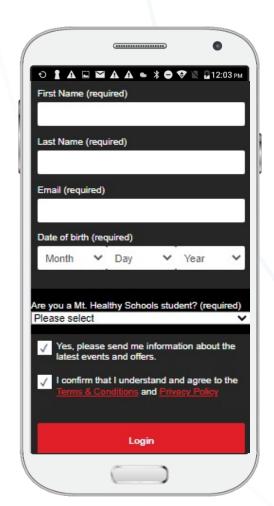


- Accessible to any person with a Wi-Fi enabled device
- Up to 200 concurrent users per outdoor Access Point
- Ability to apply filters
- Captive portal allows engagement of users to communicate and deliver campaigns
- Analytics and insights collected and delivered to project owner and stakeholders



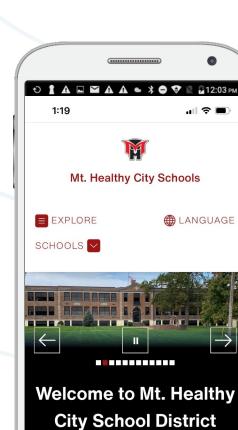
Intelligent Wi-Fi: Connect

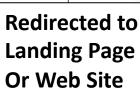














Intelligent Wi-Fi: Insight

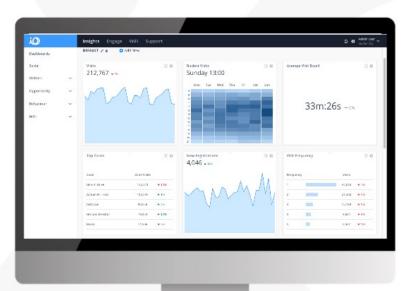
SOURCE #1: ANONYMOUS WIFI DATA

SOURCE #2: REGISTERED WIFI DATA

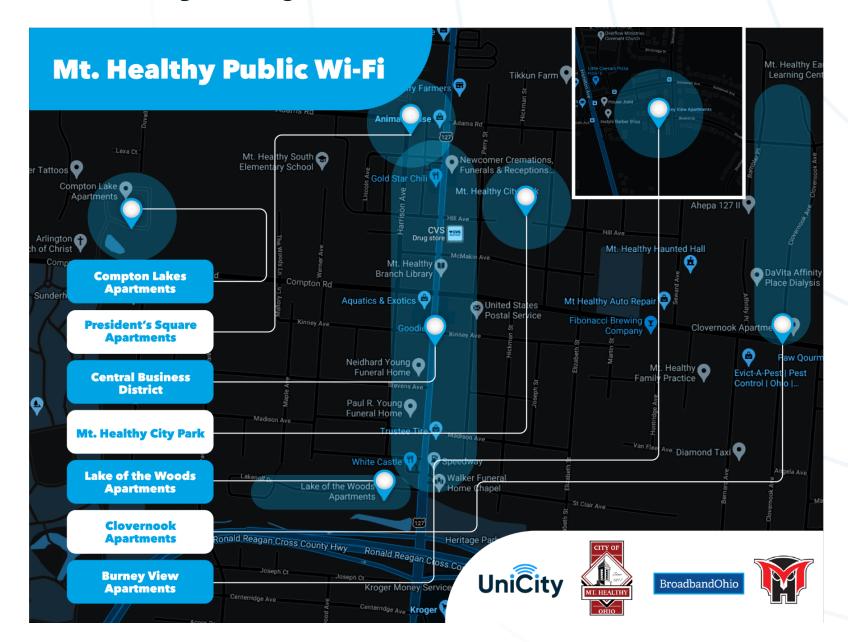
SOURCE #3: EXTERNAL DATA







The Mt Healthy Project

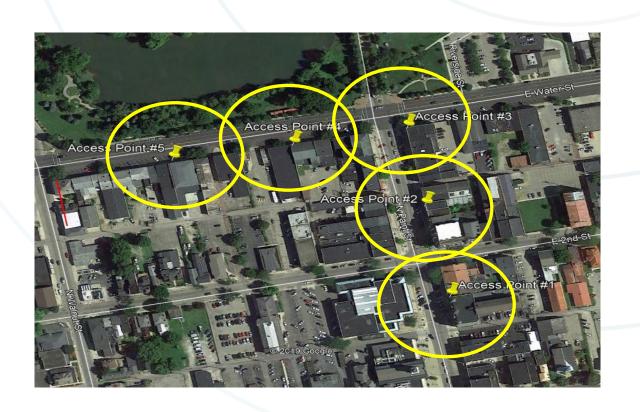




Application: Central Business District



- Amenity for visitors and residents
- Build brand and sense of place in the business district
- Share information on local businesses, events, transit, etc.
- Collect analytics on foot traffic and share with business community
- Utilize zones to understand traffic flow and wayfinding needs
- Drive Economic Development



Small business marketing - Engage





From: Mt Healthy

Free WiFi

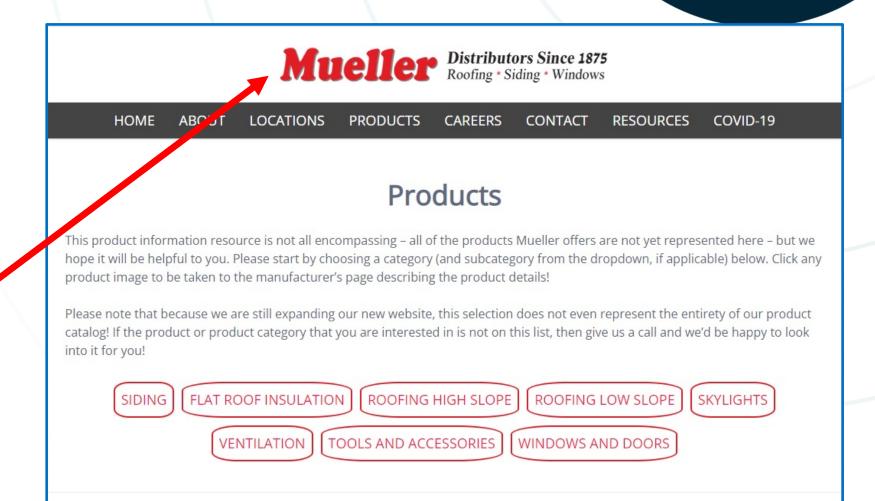
Today at 1:13 PM

Thank you for visiting The City of Mt Healthy today and logging into the free WiFi sponsored by Mueller Roofing Distributors.

Since 1875, the Mueller Family has endeavored to be America's best distributor of building products.

Mueller is a fourth generation family owned and operated company, dedicated to serving the professionals in the exterior building products industry.

For more information click: https://mueller1875.com/



Application: Parks/Public Spaces



- Amenity for visitors, sports spectators, and community access for those without home service
- Share information on parks events, summer camps, rentals, facilities, etc.
- Collect information on park usage, impact of investments
- Trigger notifications for public safety
- Requires a power source and in some cases fiber builds within the park



Link Visitors with information - Engage





From: City of Edgewood

Free WiFi

Today at 1:13 PM

Thank you for visiting Presidents Park today and logging into the free WiFi.

Did you know the White House Event Center located in Presidents Park is now available for rental Noon — Midnight; Sunday — Saturday. The event center holds up to 60 people and can be used for any occasion. The center has seating for 45-60 guests, five televisions, Kitchen with a full size refrigerator, warming drawer, ice machine, sink and microwave, gas fire place, men's and women's bathroom, dressing room with separate bathroom, mudroom, and back patio area.

For more information click:

https://edgewoodky.gov/parksrecreation/event-center/







Application: Digital Equity

- Typically focused on high concentration housing communities with low-income residents
- Designed more for private at-home use but public spaces also have service
- Often designed around student remote learning needs
- Create targeted campaigns based on community needs such as public health, early childhood education, etc.
- Collect data on usage





Inform Visitors and Residents - Engage



From: Mt Healthy

COVID-19 Update

Today at 1:13 PM

The city is working diligently to keep residents updated on the latest information pertaining to COVID-19. On our web page you can find information and resources on how to protect yourself and your loved ones from COVID-19, how the state and local government is responding to COVID-19, and what sort of help and services are available across the state and here in Mt. Healthy.

For more information click:

http://mthealthy.org/covid-19updates/



From: Mt Healthy

Rent and Utility Assistance Program

Today at 1:13 PM

Mt. Healthy residents, the application for the Hamilton County CARES Act Rent and Utility Assistance Program can be found on our web site.

Completed applications should be emailed to

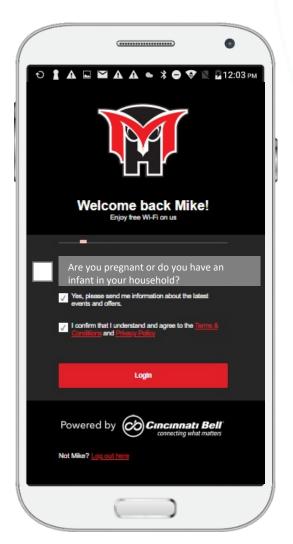
Jessica.Wilcher@jfs.ohio.gov. Stay healthy, Mt. Healthy!

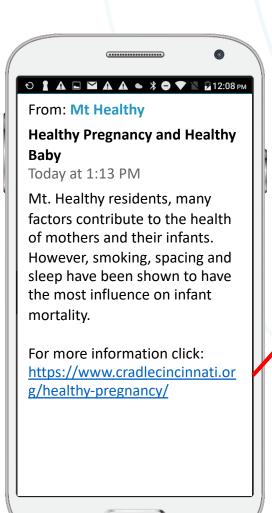
For more information click: http://mthealthy.org/



Inform Visitors and Residents - Engage









Questions:

John Putnam john.putnam@cinbell.com (513) 703-3203



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City Centre One Building
100 East Federal Street, Suite 1000
Youngstown, Ohio 44503
(330) 779-3800
www.eastgatecog.org

Hillsdale Adrian Fort Wayn Akron-Findlay Wooster Canton Lima Mansfield Marion Grand Lake 1170 ft Weirton 1542 ft Sidney Delaware Piqua Newark Columbus Springfield Zanesville Richmond OHIO Dayton Lancaster Oxford Athens Chillicothe Wayne National Forest

About Eastgate

Eastgate Regional Council of Governments

- Metropolitan Planning Organization (MPO)
- Areawide Water Quality Management Agency
- Economic Development District- EDA
- Local Development District- ARC
- Ohio Public Works Committee District 6- OPWC



Ashtabula Members Trumbull Ashtabula County Trumbull County Mahoning County All cities, villages and townships in the counties

Lake Erie



BROADBAND

- Collaboration
- Partnerships
- Regionalization



Broadband Overview

Targeted Support

- Three-county feasibility study completed in June of 2021 (Ashtabula, Mahoning, Trumbull).
- Regional leadership and cooperation to support broadband deployment (I.E., Broadband Coordinator).
- Affordable, accessible, & reliable broadband service for regional residents and businesses.
- Funding source identification- \$65 billion allocated under the IIJA, \$48.2 of which will be administered by the NTIA.
 State specific funds, Office of BroadbandOhio. Other pathways such as the ARC, EDA, etc.







Marketing Low-Cost Offerings

The Oak Hill Collaborative partnering with the City of Youngstown and Mahoning County has connected 9,000-10,000 homes in the city through the promotion of the Affordable Connectivity Program (ACP) formerly the Emergency Broadband Benefit (EBB) program.

Digital Equity & Inclusion

- Digital equity and inclusion encompass all racial, socioeconomic, and geographic boundaries (urban and rural) within our region.
- We believe that a Digital Inclusion Ecosystem is a combination of programs and policies offered up by various partner organizations that meet our community's unique and diverse needs.
- Participation includes access to broadband, affordable prices, and Digital Literacy skills and equipment needed to fully utilize that broadband (The Oak Hill Collaborative).



SR-11 Fiber Expansion Overview

- Installing a high-speed fiber line, along SR-11 from Lake Erie with the potential for future expansion to the Ohio River.
- 70 miles, through 3 counties (Ashtabula, Trumbull, and Mahoning).
- Connectivity to existing fiber lines on IR-90, IR-80, and the Ohio Turnpike
- Would serve over 520,000 residents



Erie PENNSYLVANIA

SR-11 Fiber Expansion Benefits

- **Digital Equity & Inclusion** Provides underserved populations with the opportunity to participate in modern society as well as the modern economy.
- **Economic Growth & Prosperity-** The region become more attractive for private investment, while creating and retaining jobs.
- **Public Safety-** Improved response to crisis through enhanced use of public alert systems and remote monitoring.
- Government Services- Increased awareness and interaction with residents that results in improved quality of essential services.

Thank you



skristan@eastgatecog.org
mragozine@eastgatecog.org

eastgatecog.org

(330)779 - 3800



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Programs started as a result of Ohio's Broadband & 5G Workforce Strategy

- 59 5G Readiness Program
- Fiber Optic Technician
- Telecommunications Tower Technician Program





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Panelists

DigitalC

- Sharon Sobol Jordan | Interim CEO
- Lance Frew | Chair of the Board
- Rolando Alvarez | Director of Technology
- Katie Grootegoed | Director, Customer Acquisition, Adoption, and Retention

Partners

- Mark Madeja | Chief Operating Officer, Jack, Joseph and Morton Mandel Foundation
- Marty McGann | EVP, Advocacy & Strategy, Greater Cleveland Partnership
- John Malcolm | Chief Innovation and Technology Officer, Cleveland Public Library
- Leon Wilson | Chief of Digital Innovation & CIO, Cleveland Foundation
- Dale Armbruster | Performance Consultant, Cuyahoga County Office of Innovation & Performance



Agenda

Overview

- The Ohio Problem
- Cleveland tops list of Worst-Connected Big Cities
- What We're Doing to Solve the Problem

Our Collaborative Approach

Partners are Key: Public, Private, Philanthropic

Access + Adoption is Essential

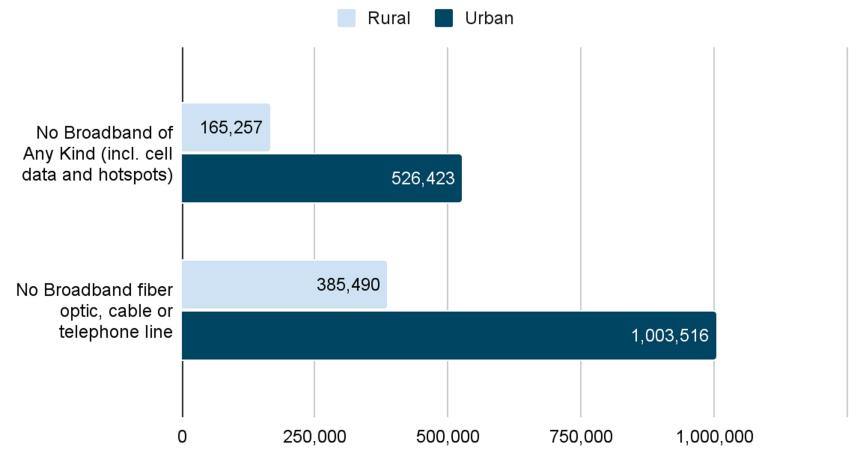
- DigitalC's Technology Approach
- DigitalC's Customer Acquisition, Retention, and Adoption Model







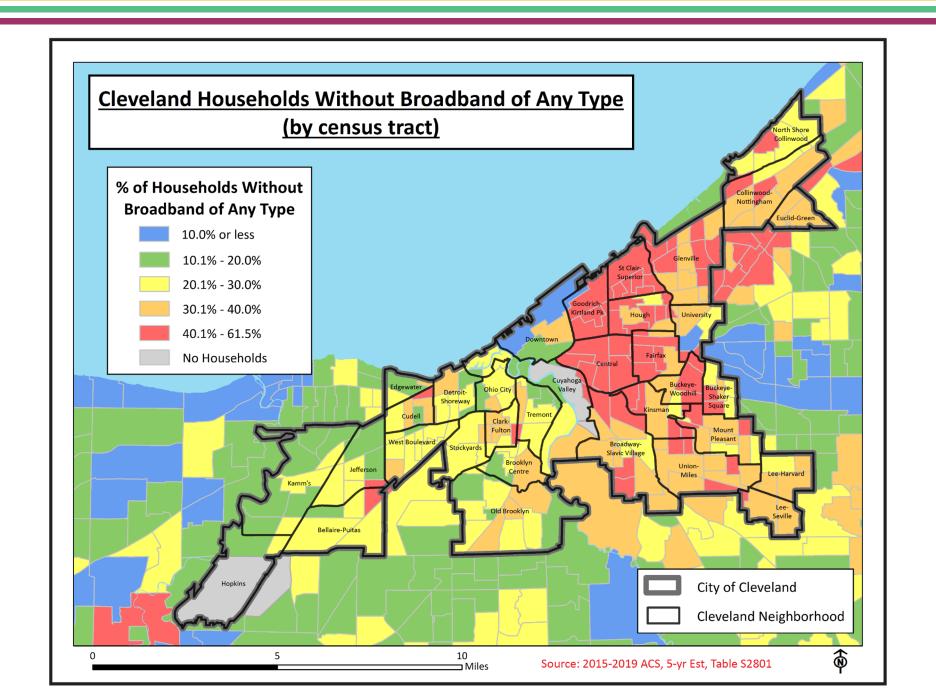
The Ohio Problem: Connectivity is a Rural and Urban Issue



Total Ohio Households: 4,730,340 Total Ohio Rural Households: 968,406 Total Ohio Urban Households: 3,761,934













Jack, Joseph and Morton Mandel Foundation

Mark Madeja, Chief Operating Officer Jack, Joseph and Morton Mandel Foundation

David and Inez Myers Foundation





Marty McGann, Executive Vice President, Advocacy & Strategy





Cleveland Public Library is "The People's University," the center of learning for a diverse and inclusive community.

- Founded in 1869, Cleveland Public Library serves the residents of Cleveland through 28 locations
- CPL houses the Ohio Center for the Book and administers the Ohio Library for the Blind and Print Disabled (OLBPD), serving all 88 Ohio counties
- Collection of 10.5 million items is our most treasured possession. Lends nearly 6 million items a year to its 300,000 registered borrowers and to 47 other CLEVNET-member libraries in 12 counties across Northeast Ohio
- Beyond our own walls, Cleveland Public Library also finds creative ways to reach further into our community and provide services for special populations.









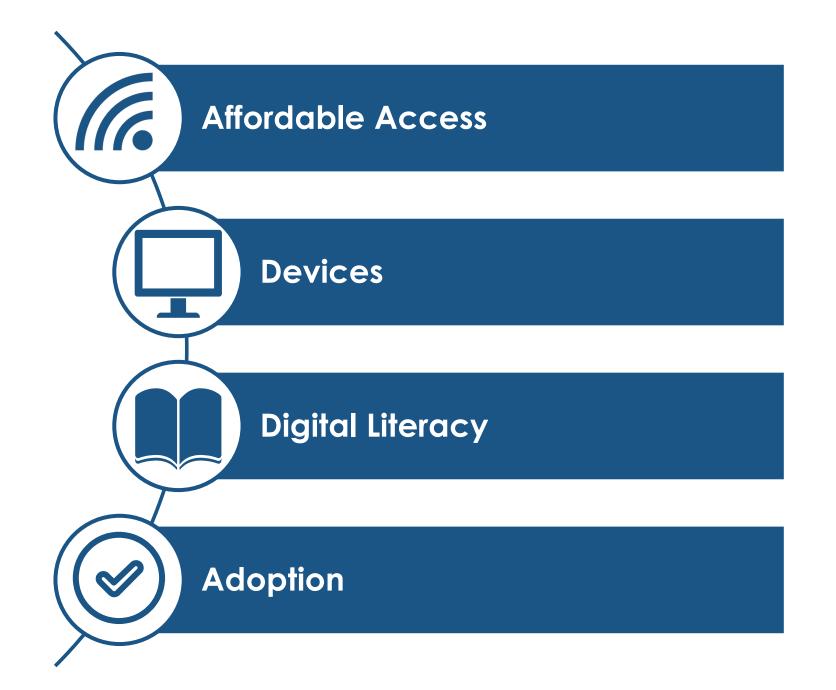




Leon Wilson, Chief of Digital Innovation & Chief Information Officer



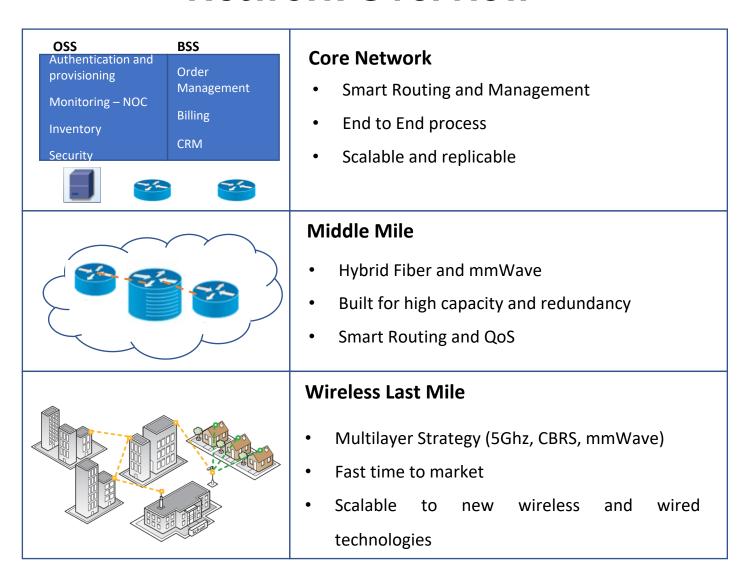








Network Overview





Customer Acquisition, Adoption & Retention

Marketing & Community Engagement Teams Send Mailers, Door Hangers, Texts, Calls



Customer Acquisition Calls, Texts and Door Knocks



Customer Acquisition Discusses Features & Benefits of EmpowerCLE+ with Customer

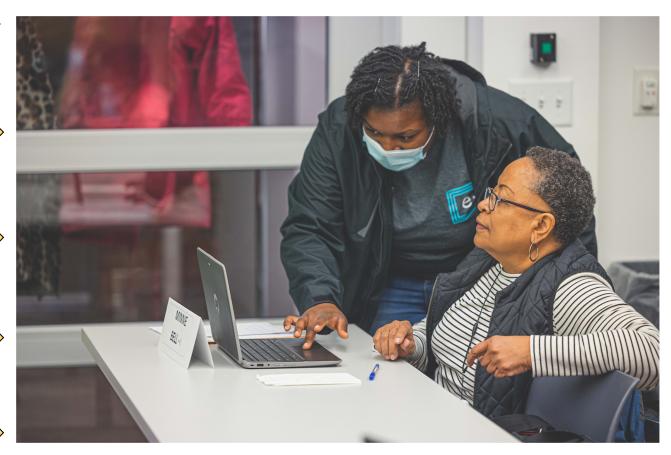


Install Scheduled



Installation Completed & Adoption Survey Provided





A senior participates in our digital literacy skills training.



We Can Be a Resource

DigitalC

- · Sharon Sobol Jordan, sharon.jordan@digitalc.org
- Lance Frew, Ifrew@gbxgroup.com
- Rolando Alvarez, rolando.alvarez@digitalc.org
- Katie Grootegoed, katie.grootegoed@digitalc.org

Partners

- Mark Madeja, mmadeja@mandelfoundation.org/
- Marty McGann, MMcGann@greatercle.com
- · John Malcolm, John Malcolm@cpl.org
- Leon Wilson, Iwilson@clevefdn.org
- · Dale Armbruster,.darmbruster@cuyahogacounty.us

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BroadbandOhio



Our Company





Consistent record of confidence and respect.



High-value services for maintenance, compliance, expansion, and new-build projects.



Clients of all sizes, enhancing performance and strength of their network facilities and/or asset infrastructure.



Strict process and control regiment, and exhaustive quality assurance program.



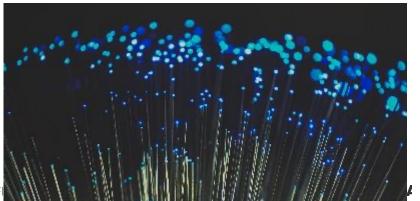
Active in the industry through our devotion to regular training and relationships with industry associations.













Background

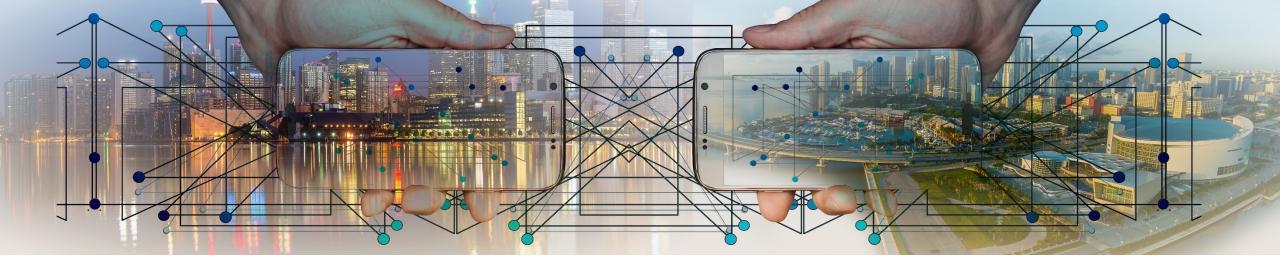
Founded in 1998 HQ in Perrysburg Ohio 10+ State operations 250 + employees

Two Market Focused Divisions

- Power Infrastructure
- Telecommunications Infrastructure

Company Values

- Safety First Nothing is too important that it can't be done safely!
- Tell the Truth, See the Truth.
- Make a Good Deal and Keep It.



Consulting & Planning

- Feasibility Studies
- Technology Evaluations
- Request for Proposals
- Process Improvements

Voice Design

- Switch Design
- Equipment Configuration
- Digital Loop Carrier

Access Design

- FTTX
- Copper
- Fiber
- HFC/RF
- Wireless

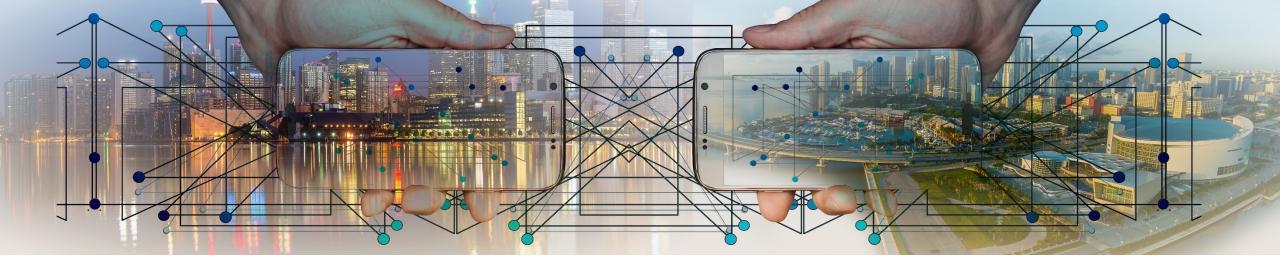
Video Design

- Head End: Analog, Digital, IP
- Set-top
- Satellite Systems
- Video On Demand
- Emergency Alert Systems
- Testing & Monitoring Systems
- Middleware Software

Infrastructure Design

- Plant Audits & Evaluations
- Aerial Design
- Pole Loading Design
- Joint Use & Make Ready
- Underground
- Aerial
 - Distribution
 - Transmission
- Inside/Outside Demarcation





Construction Services

- Bid Process
- Project Management
- Material Management
- As-Built Management

Sigma SYNC

- Standardization
- Training
- Project Overview

Data Design

- Switch & Router Selection
- Equipment Testing & Configuration
- Voice Over Internet Protocol Design
- Virtual Private Networking
- Digital Subscriber Line Access
 Multiplexing
- DWDM
- Transport & Dedicated Services

Records

- Computer Aided Design & Drafting
- Geospacial Information
 System Configuration (GIS)
- Asset Surveys, Inventories, and Attribute Configuration
- CAD & GIS Conversions
- Records Verifications
- As-Built Development
- Property Record Development
 & Maintenance (CPR)
- Software Selection Support RFI/RFP Configuration, Training



Primary Power Project Types ALL THINGS DISTRIBUTION DESIGN

Transmission Underbuild

Circuit Reliability	06	Wireless Asset Design & Management
Line Rebuild	07	Street Lighting
Grid Modernization	80	Feeder Infrastructure
New Business	09	Residential Subdivision
	Line Rebuild Grid Modernization	Line Rebuild 07 Grid Modernization 08

Multi-Family Development



Primary Power Project Types

ALL THINGS DISTRIBUTION DESIGN

11	ERP	System	Impl	lementation

- GPS & Asset Inventory Program Implementation
- Make Ready Design & Program Management
- GIS System Implementation
- Fiber Assess Design & Management

- Pole Replacement Design & Program Management
- Construction Review & Coordination (As Built)
- O/H to U/G Conversion
- Substation Getaway
- U/G Cable Replacement



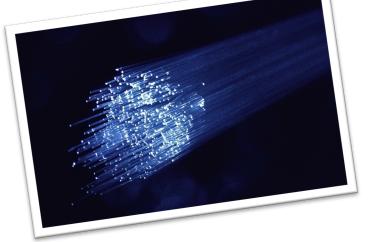
Markets We Serve

Power

- IOU
- Muni
- REMC
- Contractors
- Government
- Independent Electricity Transmission
- Others...



- MSO
- ILEC
- CLEC
- RBOC
- Schools
- Muni
- Wireless
- Contractor
- Carrier
- Government







Capital Budget Costs

- OSP Cost
- Engineering Cost
- ISP Cost
- Segmented Cost
- Overall Budget

Segmented CostOverall Budget

FSA Name			
Total Build Summary			
Miles of New Fiber:	100	Buried Mileage:	10
# of Passings:	500	Buried Mileage (%):	10%
Fixed Cost Build:	\$7,010,572	Aerial Mileage:	90
Per Passing Cost:	\$14,021	Aerial Mileage (%):	90%
# of Subs at 50% TR:	250	Incremental Sub Cost (50% TR):	\$1,231
Total Projected Cost:	\$7,318,434	Total Per Mile Cost:	\$73,184.34

FSA Name		FSA Name		
Middle Mile (Costs	Last Mile Costs		
Outside Plant	Costs	"Success Based"	' Costs	
Material	\$1,401,158.64	ONT and Installation	\$137,500.00	
Labor	\$3,602,979.36	Cards and Transceivers	\$7,862.12	
Subtotal	\$5,004,138.00	Drop Material and Labor	\$162,500.00	
		Subtotal	\$307,862.12	
Design & Permitti	ng Costs			
Mapping and Design	\$440,000.00			
Joint Use Attachment Fees	\$18,900.00		5	
Make Ready Fees	\$900,000.00		osts	rte.
Permit Application Fees	\$2,000.00		0513	\$137,50 \$7,86
Construction Manager	\$365,302.07			\$162,50
Construction Review	\$280,231.73			\$307,86
Subtotal	\$2,006,433.80			
Total Projected Costs	\$7,010,571.80	Total Projected Costs	\$307,862.12	
Per Passing Costs	\$14,021.14	Per Subscriber Costs	\$1,231.45	
Per Mile Costs	\$70,105.72			\$307,86 \$1,23



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BroadbandOhio